

WHAT IS CLAIMED IS:

1 1. A method for fabricating a structure for receiving a
2 wire bond, said method comprising the steps of:
3 fabricating a substrate material having portions that form
4 a substrate cavity within said substrate material;
5 filling said substrate cavity with portions of a wire bond
6 pad to form a wire bond cavity in said wire bond pad; and
7 covering edge portions of said wire bond pad with
8 passivation material.

1 2. The method as set forth in Claim 1 further comprising
2 the step of:
3 fabricating said wire bond cavity with portions that form
4 at least one side of said wire bond cavity.

1 3. The method as set forth in Claim 1 further comprising
2 the step of:
3 fabricating said wire bond cavity with portions that form a
4 wire bond cavity having a cross sectional shape that is one of:
5 circular, oval, square, rectangular and irregular.

1 4. A method of wirebonding a wire to a structure for
2 receiving a wire bond, said method comprising the steps of:
3 fabricating a substrate material having portions that form
4 a substrate cavity within said substrate material;
5 filling said substrate cavity with portions of a wire bond
6 pad to form a wire bond cavity in said wire bond pad;
7 covering edge portions of said wire bond pad with
8 passivation material; and
9 wirebonding a ball on an end of said wire to said wire bond
10 cavity.

1 5. The method as set forth in Claim 4 further comprising
2 the step of:
3 fabricating said wire bond cavity with portions that form
4 at least one side of said wire bond cavity.

1 6. The method as set forth in Claim 4 further comprising
2 the step of:
3 fabricating said wire bond cavity with portions that form a
4 wire bond cavity having a cross sectional shape that is one of:
5 circular, oval, square, rectangular and irregular.

1 7. A structure for receiving a wire bond, said structure
2 comprising:

3 a substrate material having portions that form a substrate
4 cavity within said substrate material;

5 a wire bond pad covering said substrate cavity wherein
6 portions of said wire bond pad fill said substrate cavity to
7 form a wire bond cavity in said wire bond pad; and

8 passivation material that covers edge portions of said wire
9 bond pad.

1 8. The structure as set forth in Claim 7 wherein said
2 wire bond cavity comprises portions that form at least one side
3 of said wire bond cavity.

1 9. The structure as set forth in Claim 7 further
2 comprising a ball on an end of a wire, wherein said ball is
3 wirebonded to said wire bond cavity.

1 10. The structure as set forth in Claim 9 wherein a
2 diameter of said wire is smaller than a diameter of said wire
3 bond cavity by five percent to twenty percent.

1 11. An integrated circuit that comprises at least one
2 structure for receiving a wire bond as claimed in Claim 7.

1 12. A method for fabricating a structure for receiving a
2 wire bond, said method comprising the steps of:

3 fabricating a substrate material having portions that form
4 a substrate cavity within said substrate material and that form
5 a restraining edge of substrate material around said substrate
6 cavity;

7 filling said substrate cavity with portions of a wire bond
8 pad to form a wire bond cavity in said wire bond pad, wherein
9 said wire bond pad has portions that form a restraining edge
10 around said wire bond cavity; and

11 covering edge portions of said wire bond pad with
12 passivation material.

1 13. The method as set forth in Claim 12 further comprising
2 the step of:

3 fabricating said wire bond cavity with portions that form
4 at least one side of said wire bond cavity.

1 14. The method as set forth in Claim 12 further comprising
2 the step of:

3 fabricating said wire bond cavity with portions that form a
4 wire bond cavity having a cross sectional shape that is one of:
5 circular, oval, square, rectangular and irregular.

1 15. A method of wirebonding a wire to a structure for
2 receiving a wire bond, said method comprising the steps of:

3 fabricating a substrate material having portions that form
4 a substrate cavity within said substrate material and that form
5 a restraining edge of substrate material around said substrate
6 cavity;

7 filling said substrate cavity with portions of a wire bond
8 pad to form a wire bond cavity in said wire bond pad, wherein
9 said wire bond pad has portions that form a restraining edge
10 around said wire bond cavity;

11 covering edge portions of said wire bond pad with
12 passivation material; and

13 wirebonding a ball on an end of said wire to said wire bond
14 cavity, wherein portions of said ball that fill said wire bond
15 cavity under said restraining edge around said wire bond cavity
16 form a restraining wedge.

1 16. The method as set forth in Claim 15 further comprising
2 the step of:

3 fabricating said wire bond cavity with portions that form
4 at least one side of said wire bond cavity.

1 17. The method as set forth in Claim 15 further comprising
2 the step of:
3 fabricating said wire bond cavity with portions that form a
4 wire bond cavity having a cross sectional shape that is one of:
5 circular, oval, square, rectangular and irregular.

1 18. A structure for receiving a wire bond, said structure
2 comprising:

3 a substrate material having portions that form a substrate
4 cavity within said substrate material and that form a
5 restraining edge of substrate material around said substrate
6 cavity;

7 a wire bond pad covering said substrate cavity wherein
8 portions of said wire bond pad fill said substrate cavity to
9 form a wire bond cavity in said wire bond pad, wherein said wire
10 bond pad has portions that form a restraining edge around said
11 wire bond cavity; and

12 passivation material that covers edge portions of said wire
13 bond pad.

1 19. The structure as set forth in Claim 18 wherein said
2 wire bond cavity comprises portions that form at least one side
3 of said wire bond cavity.

1 20. The structure as set forth in Claim 18 further
2 comprising a ball on an end of a wire, wherein said ball is
3 wirebonded to said wire bond cavity, and wherein portions of
4 said ball that fill said wire bond cavity under said restraining
5 edge around said wire bond cavity form a restraining wedge.

1 21. The structure as set forth in Claim 18 wherein a
2 diameter of said wire is smaller than a diameter of said wire
3 bond cavity by five percent to twenty percent.

1 22. An integrated circuit that comprises at least one
2 structure for receiving a wire bond as claimed in Claim 18.